

Applicant: Adrian HEDRICH
Docket No. R.306616
Preliminary Amdt.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-10. (Canceled)

11. (New) In an injector for a common rail injection system of an internal combustion engine, having an injector housing, a valve element disposed in the injector housing, a sealing ring acting as a seal between a high-pressure region and a low-pressure region of the injector, and a support ring, disposed together with the sealing ring in an annular chamber between the injector housing and the valve element, for bracing the sealing ring, which is provided, in its underside remote from the sealing ring, with a plurality of relief grooves spaced apart in the circumferential direction and, in its outer circumferential edge, with a plurality of recesses spaced apart in the circumferential direction, the improvement wherein the relief grooves and the recesses are disposed in offset fashion in the circumferential direction.

12. (New) The injector as defined by claim 11, wherein one recess each is located between two relief grooves adjacent to one another in the circumferential direction.

13. (New) The injector as defined by claim 12, wherein the recess is disposed in the middle between the adjacent relief grooves.

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14. **(New)** The injector as defined by claim 11, wherein one relief groove each is disposed between two recesses adjacent to one another in the circumferential direction.

15. **(New)** The injector as defined by claim 12, wherein one relief groove each is disposed between two recesses adjacent to one another in the circumferential direction.

16. **(New)** The injector as defined by claim 13, wherein one relief groove each is disposed between two recesses adjacent to one another in the circumferential direction.

17. **(New)** The injector as defined by claim 14, wherein the relief groove is disposed in the middle between the adjacent recesses.

18. **(New)** The injector as defined by claim 15, wherein the relief groove is disposed in the middle between the adjacent recesses.

19. **(New)** The injector as defined by claim 16, wherein the relief groove is disposed in the middle between the adjacent recesses.

20. **(New)** The injector as defined by claim 11, wherein the recesses and the relief grooves are each spaced apart from one another at equal angular spacings.

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21. (New) The injector as defined by claim 12, wherein the recesses and the relief grooves are each spaced apart from one another at equal angular spacings.

22. (New) The injector as defined by claim 13, wherein the recesses and the relief grooves are each spaced apart from one another at equal angular spacings.

23. (New) The injector as defined by claim 14, wherein the recesses and the relief grooves are each spaced apart from one another at equal angular spacings.

24. (New) The injector as defined by claim 17, wherein the recesses and the relief grooves are each spaced apart from one another at equal angular spacings.

25. (New) The injector as defined by claim 11, wherein the support ring comprises four relief grooves and four recesses, and wherein the recesses are disposed at a spacing of 45° from the relief grooves.

26. (New) The injector as defined by claim 11, wherein the support ring comprises a substantially axial support ring part and a substantially radial support ring part, which is provided with the relief grooves in its underside remote from the sealing ring and with the recesses in its outer circumferential edge.

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27. (New) The injector as defined by claim 20, wherein the support ring comprises a substantially axial support ring part and a substantially radial support ring part, which is provided with the relief grooves in its underside remote from the sealing ring and with the recesses in its outer circumferential edge.

28. (New) The injector as defined by claim 25, wherein the support ring comprises a substantially axial support ring part and a substantially radial support ring part, which is provided with the relief grooves in its underside remote from the sealing ring and with the recesses in its outer circumferential edge.

29. (New) The injector as defined by claim 11, wherein the support ring is braced against an annular shoulder of the injector housing, whose cross-sectional shape is adapted to the cross-sectional shape of the support ring in such a way that with its outer circumferential edge, the support ring rests essentially sealingly between the recesses against the injector housing above the annular shoulder, and with parts of its underside, the support ring rests sealingly against the annular shoulder between the relief grooves, and the parts that rest sealingly are oriented toward the valve element and do not extend over the full width of the support ring.

30. (New) A common rail injection system, comprising at least one injector as defined by claim 11.